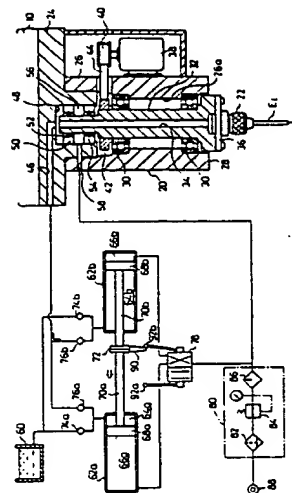


(54) MACHINING LIQUID FEEDING DEVICE OF ELECTRIC DISCHARGE MACHINE

(11) 62-157721 (A) (43) 13.7.1987 (19) JP
 (21) Appl. No. 60-293285 (22) 27.12.1985
 (71) MAKINO MILLING MACH CO LTD (72) KENJI IGARASHI
 (51) Int. Cl. B23H1/10

PURPOSE: To obtain an inexpensive nonfailure device by connecting two machining liquid feeding cylinders face to face, continuously feeding the pressure air to continuously operate the cylinders, and continuously feeding a machining liquid to the electric discharge machining section through the hole of a hollow electrode.

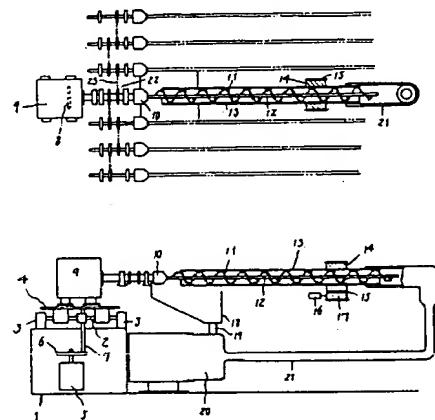
CONSTITUTION: To feed a machining liquid, the pressure air of a pressure air feeding source 88 is fed into a pressure air chamber 66b, piston rods 70a, 70b are operated, and the machining liquid of a machining liquid chamber 64b is fed to a machining liquid feeding path 46. In this case, a dog 90 is removed from a switching bar 92b and coupled with a switching bar 92a to switch a pressure air selector valve 78. Then, pressure air enters a pressure air chamber 66a, and the piston rods 70a, 70b are moved to the right. Accordingly, the machining liquid is pushed out from a machining liquid chamber 64a and flows to the machining liquid feeding path 46. During this time, the machining liquid is fed into the machining liquid chamber 64b from a machining liquid tank 60. This device has the structure which avoids a bother encountered in case of a motor pump.

**(54) INSIDE POLISHING METHOD FOR METAL TUBE**

(11) 62-157722 (A) (43) 13.7.1987 (19) JP
 (21) Appl. No. 60-297228 (22) 30.12.1985
 (71) NISSHO ASUTETSUKU K.K. (72) AKIRA SUGITA
 (51) Int. Cl. B23H5/00, B23H5/06

PURPOSE: To obtain a highly accurately polished face via combined polishing of electrolytic polishing and mechanical polishing by feeding an electrolytic polishing liquid through the opening of a metal tube in which a rotary shaft spirally wound with a polishing material such as felt is inserted and slidingly brought into contact with the inside.

CONSTITUTION: For the polishing method, a polishing member 11 wound around a rotary shaft 12 is slidingly brought into contact with the whole inner periphery of a metal tube 13, and the metal tube 13 is connected to a positive electrode and the rotary shaft 12 to a negative electrode respectively. Under this condition, a motor 5 is driven, and a motor table 4 is reciprocated back and forth by a fixed small distance. A motor 9 is driven to rotate the rotary shaft 12, and a drive motor 16 is driven to rotate the metal tube 13 in the peripheral direction. A circulating pump 20 is operated to feed an electrolytic polishing liquid from an electrolytic polishing liquid receiving tank 18 to the front end opening of the metal tube 13 via a circulating pipeline 21. Accordingly, even a fine-diameter tube with an inner diameter of 20mm or less can be easily polished, and accurate polishing can be attained by combined polishing.



1: machine mount, 4: motor table, 5: reciprocating motor, 9: motor, 11: polishing member, 12: rotary shaft, 13: metal tube, 18: electrolytic polishing liquid receiving tank, 20: circulating pump, 21: circulating pipeline

(54) WORKPIECE FIXING DEVICE FOR WIRE-CUT ELECTRIC DISCHARGE MACHINE

(11) 62-157723 (A) (43) 13.7.1987 (19) JP
 (21) Appl. No. 60-198177 (22) 6.9.1985
 (71) HIROTAKE MORITA (72) HIROTAKE MORITA
 (51) Int. Cl. B23H7/02, B23Q3/02

PURPOSE: To facilitate highly accurate fitting by fixing a flat plate fixed to a clamp section to a base plate fixed to a machine mount with a bolt via a spring and adjusting the attitude with screws provided at the top position of a triangle including the bolt inside it.

CONSTITUTION: A workpiece A is inserted between upper pressing plates 21a, 21b and lower pressing plates 22a, 22b; bolts 20, 25 are tightened to firmly fix the workpiece A between the pressing plates. In case one side face B is used as a reference face, two adjusting screws 14 screwed to a flat plate section 6 at the top position of a triangle including a fitting bolt 4 inside it are adequately rotated while a dial gauge is attached for measurement, likewise the clamp section 17 is inclined centering a pivot 12 provided at the top position of a triangle via the flat plate section 6, and the clamp section 17 is inclined in the horizontal direction by rotating an adjusting screw 16 as required. Accordingly, the workpiece A can be easily adjusted with respect to the machine mount 1 and is fitted highly accurately.

